

new record for Karnataka State.

Critical studies on "crotalaria" from Chandrapur district shows the occurrence of *Crotalaria acicularis* Buch.-Ham. in Maharashtra also. The plant (Malhotra 138567) collected from Palmalgotta in Bhamragarh forest division (Chandrapur district) serves as a new record for Maharashtra State thus extending its distribution further north.

In view of its rarity and absence of any known published illustration of the plant, a line drawing is given along with a brief description.

Crotalaria acicularis Buch.-Ham. in Wall. Cat. 5390, 1831-32. Baker in Hook. f. Fl. Brit. India 2: 68. 1876.

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A prostrate herb with spreading branches thinly clothed with silky hairs. Leaves nearly sessile, obtuse, glaucous green, membranous, rounded at the apex, slightly cordate at base. Stipules persistent, reflexed. Flowers yellow. Pods small, oblong, glabrous.

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36. NEWLY RECORDED AND REDISCOVERED FERNS AT MT. ABU, RAJASTHAN

Mt. Abu situated at 24°36'N and 22°43'E forms the south western extremity of the Aravali Range and is the highest point between the Himalayas and the Nilgiris (height 1727 m above mean sea level at Guru Shikhar, the highest peak of this range). Due to heavy rainfall compared to other parts of Rajasthan it possesses a rich vegetation of the humid subtropical type with the largest concentration of pteridophytes in Rajasthan.

Bhardwaja *et al.* (1978) in their recent survey of pteridophytic localities of Rajasthan mentioned that some of these ferns have now been observed during a botanical trip to Mt. Abu in August-September 1979. Besides, *Araiostegia pseudocystopteris* (Kze.) Copel a fern belonging to Davalliaceae has also been observed for the first time at Mt. Abu. This note describes the distribution and morphology

of these rediscovered and new fern taxa at Mt. Abu.

Araiostegia pseudocystopteris (Kze.) Copel.: This fern was collected from Guru Shikhar and is a new record for Rajasthan. The Mt. Abu material bears the following morphological features.

Rhizome creeping on the moist surfaces of rocks, sympodial, brown, densely covered with spreading, cordate scales. Fronds alternate arising from an involucre cup like structure formed by densely overlapped, spreading scales on short lateral branches. Stipe 7-15 cm long, grooved, sparsely covered with scales. Fronds sagittate, lowest pinnae opposite and all other pinnae alternate. Each pinna broadly lanceolate 3-4 pinnatifid, lower pinna 5-7 cm long, upper most 1-1.5 cm long. Segments very acute, texture thin. Sori on veins, ventral inter-

calary, usually single sorus per pinnule, as broad as the segment. Involucre complete, prominent and translucent white. Sporangia 7-12 per sorus. Spores reniform with a honey-combed exine.

This species has so far been reported from Dalhousie to Nepal (Beddome 1892) and Nainital (Loyal & Verma 1960). According to these authors it grows as a common epiphyte on moss covered trunks of *Cedrus* and other large trees. The Rajasthan material thus differs from that of the Himalayan material in being lithophytic and larger in size. Moreover occurrence of scales sparsely throughout the length of stipe and an exine with a honey-combed pattern are additional features of the Rajasthan material of this fern.

Dryopteris cochleata (Don) C. Chr.: After Bir & Verma (1963) described some specimens of this fern collected from Sunset point by S. K. Sharma of Ajmer, Mital (1969) also referred to the same collection of sterile specimens of this fern at the same locality. It has now been collected with fertile fronds for the first time on way to Palanpur point and Sunset point. As mentioned by Bir & Verma (1963) it is the only fern at Mt. Abu with dimorphic fronds. The sterile fronds are large (1.5 m long) with broad upper pinnae and lobed lower pinnae. Fertile fronds consist of contracted, narrow pinnae covered with shining white scales and ramenta. The sori are large, paired and with a prominent convex involucre. The fertile fronds are produced after the end of rainy season, i.e. September.

Cyclosorus dentatus (Forsk.) Ching.: Though reported by earlier workers (Kanodia & Deshpande 1962, Bir & Verma 1963, Mital 1969, Sharma & Bohra 1977) but Bhardwaja *et al.* (1978) could not locate this fern till 1976. It has now been observed growing on way to Kodra Dam and Guru Shikhar valley. It forms a close thicket with *Hypodematium crenatum*

(Forsk.) along streams in the forest flora of Guru Shikhar valley.

Pteris vittata Linn.: Though this fern was reported by Bir & Verma (1963) to be common around Nakki lake, later workers (Mital 1969, Bhardwaja *et al.* 1978) could not find this fern subsequently at this spot in Mt. Abu. It has now been found again, growing near the margins of streams on way to Palanpur point and Kodra Dam.

Ferns like the endemic *Asplenium pumillum* var. *hymenophylloides* (Fee) Clarke, *Adiantum capillus-veneris* Linn., *A. philippense* Linn., *Actiniopteris radiata* Link., taxa of *Athyrium complex*, *Isoetes* sp. and *Ophioglossum* spp. recorded by Bhardwaja *et al.* in 1975 & 1976 were found to be growing widely from Anadra point to Achal Garh and Guru Shikhar. We could also collect new forms of the genus *Asplenium* and *Cheilanthes* which are yet to be identified and are under investigation in this laboratory. The material of all the above collections has been lodged in the Herbarium of the Pteridophyte Biology Lab., Deptt. of Botany, Govt. College, Ajmer.

A striking feature of this botanical exploration of Mt. Abu was our observation of a drastic and continuing decrease in the population densities of individual species of pteridophytes for which besides deforestation, the spread of *Lantana camara* seems to be responsible. This shrub started to be introduced at Mt. Abu in late sixties has been exerting allelopathic effect on the pteridophytic vegetation as confirmed by experiments conducted (details published elsewhere) in this laboratory. This work has indicated beyond any doubt the allelopathic potential of this obnoxious weed on fern spore germination and early gametophytic growth.

Earlier, restricted to municipal limits of Mt. Abu, *Lantana camara* has now spread up to Traver's tank forest and the ferns which were

MISCELLANEOUS NOTES

observed in abundance here at this spot in 1976 have receded to higher altitudes towards Achal Garh and Guru Shikhar. It is important that this obnoxious plant should be eradicated or there will be extinction of pteridophytes from this richest locality for these plants in Rajasthan.

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